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(54) Title: METHOD FOR DETECTING, IDENTIFYING, AND QUANTITATING ORGANISMS AND VIRUSES

(57) Abstract

A method for detecting and quantitating organisms containing R-RNA, t-RNA, other RNA, any member of a large, intermediate or small category of organisms such as any member of a bacterial taxonomic Family, Genus, or Species, and previously unknown organisms. The method comprises contacting the nucleic acid of the organisms whose presence, identification and quantitation are to be determined, with a marked probe comprising nucleic acid molecules complementary to RNA or other nucleic acid sequences, of the said organism, under nucleic acid hybridization conditions, and then determining the degree of hybridization that has occurred. The method may include contacting a sample with an enzyme-detergent mixture to make the nucleic acids of the organism or virus in a sample more readily available for hybridization. The method can also be used to determine the sensitivity of particular groups of organisms to antimicrobial agents, to determine the presence of substances with antimicrobial activity, and to determine the state of growth of microorganisms and other cells.